

ABSTRACT OF THE DISCLOSURE

A method and apparatus for reducing or eliminating the formation of air pockets or voids in a flowable material provided in contact with at least one substrate. The flowable material is provided in a non-horizontal direction and flows from a lower portion to an upper portion. As a result, the flowable material is provided uniformly with a single, uniform flow front due to gravity acting thereon and gravity thereby substantially preventing voids and air pockets from forming in the flowable material. In one embodiment, the at least one substrate is provided in the cavity of a transfer mold in which the cavity is filled from a gate at a lower portion of the cavity to a vent at an upper portion of the cavity. In another embodiment, a bumped semiconductor device is attached to a substrate having a gap therebetween, in which the gap is oriented longitudinally perpendicular to a horizontal plane so that the flowable material may fill the gap in a vertical direction.